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ABSTRACT

Descriptions of plants suited to specific conservation uses under different site conditions in the Northeast United States are presented in this booklet. The plants are classified into categories based on conservation use. These include: (1) plants for disturbed areas; (2) ornamental ground covers; (3) plants for coastal dunes and sandy inland areas; (4) wildlife food and cover plants; and (5) plants for screens, hedges, and windbreaks. Each plant is identified by its common and scientific name, climatic zone, main conservation use, growth rate, soil and site conditions, and its particular features. Suggestions for establishing plants are offered and specific planting methods are outlined for the plants discussed in the booklet. An index to the plants is also included. (ML)

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# Conservation Plants for the Northeast

Soil Conservation Service
U.S. Department of Agriculture
Program Aid 1

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## Plant Hardiness Zones

AVERAGE ANNUAL MINIMUM TEMPERATURE (°F)

| | | | |
|---|---|---|---|
| 3 | -40° to -30° | | -10° to 0° |
| 4 | -30° to -20° | | 0° to 10° |
| | -20° to -10° | 8 | 10° to 20° |

# Conservation Plants for the Northeast

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Soil Conservation Service, U.S. Department of Agriculture

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# Introduction

This booklet describes plants suited to specific conservation uses under different site conditions in the Northeast. The plants were selected on the basis of observation and testing by SCS and other plant scientists and the experience of many users.

Although conservation use is the main criterion for selection, the pictures show that most of the plants add great beauty to any landscape in which they grow.

The plants have been placed in five categories according to their main conservation use. Although each plant appears in only one category, it may also be suited to other conservation uses. The categories are explained in an introduction to each section.

The description of each plant begins with the common name and the scientific name.

ZONES refers to the areas of climatic adaptation shown on the map. Although the plant may grow in zones other than the ones indicated, maximum conservation effectiveness is most likely in the zones given in the text. Because the zones are keyed to a climate classification for both Canada and the United States, the ratings here begin with zone 3.

USES refers to the main conservation uses to which the plant is particularly suited. A plant can be used simply as an ornamental without a specific conservation purpose.

GROWTH RATE indicates how long the plant normally must grow to become effective for the given conservation use.

SITE CONDITIONS refers to particular soil and site conditions under which the plant can grow.

The *minimum* soil fertility at which the plant can grow well indefinitely is given. Fertility is best determined by soil tests. If a plant with low fertility requirements is selected, a soil test is less important. All plants described here grow in high-fertility soil or where fertility is maintained by periodic applications of fertilizer.

The *maximum* soil acidity at which the plant can grow effectively also is given. Ratings are very acid (pH 3.5–4.4), acid (pH 4.5–5.5), and slightly acid (pH 5.6–7.3). The plant also grows well where the soil is less acid than the maximum acidity indicated.

Soil texture, rated clayey, loamy, or sandy, indicates the kind of soil in which the plant can grow effectively. Information about soil texture is included in soil surveys which may be available for your area from the local office of the Soil Conservation Service.

The drought and shade tolerance of each plant is rated poor, fair, good, or excellent as compared with all other plants within the section. These ratings help you determine the comparative advantages of the plants within each section.

Drought tolerance indicates how the plant grows where only low amounts of water are available and the soil is dry most of the year. Shade tolerance indicates how the plant grows in full shade. If the plant does not tolerate full sun, that characteristic is noted.

A soil drainage class is given for each plant. This means the plant tolerates the drainage conditions indicated and grows well in better drained soils, but does not grow well in more poorly drained soils.

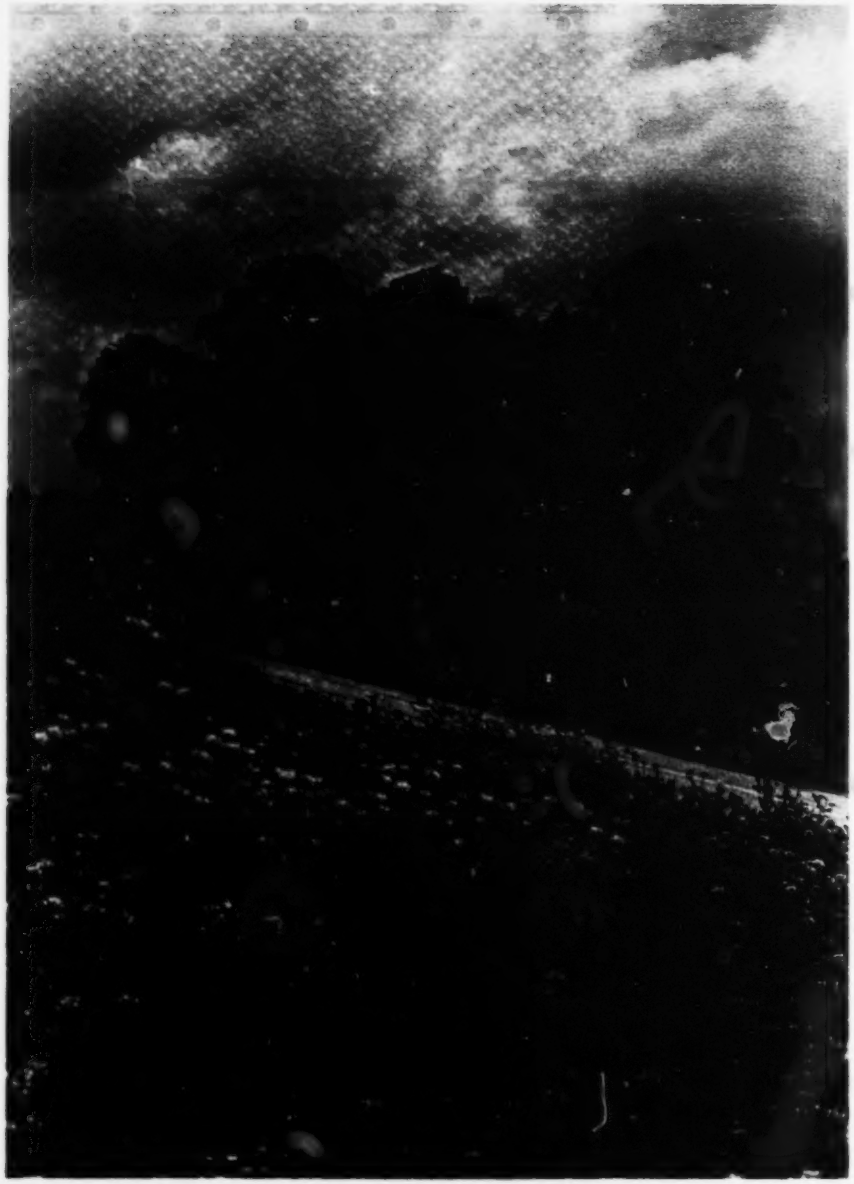
The soil drainage classes used here are poorly drained, somewhat poorly drained, moderately well drained, and well drained. All the plants grow in well-drained soil, and some require well-drained soil. Most of the plants tolerate soils that are not well drained, and the minimum drainage class those plants tolerate is given. More information about soil drainage classes is provided in soil surveys published by the Soil Conservation Service.

Other important characteristics of growth relevant to use and management of the plant are indicated where appropriate.

Next is a paragraph that briefly describes plant features and tells how to establish the plant. Features given, such as height at maturity, are average and may vary somewhat from place to place.

A section in the back of this booklet describes specific planting methods mentioned in the text.

For more information about use and management of plants for conservation uses, you can call the local office of the Soil Conservation Service. Assistance is available without regard to race, creed, color, sex, or national origin.



# Plants for disturbed areas

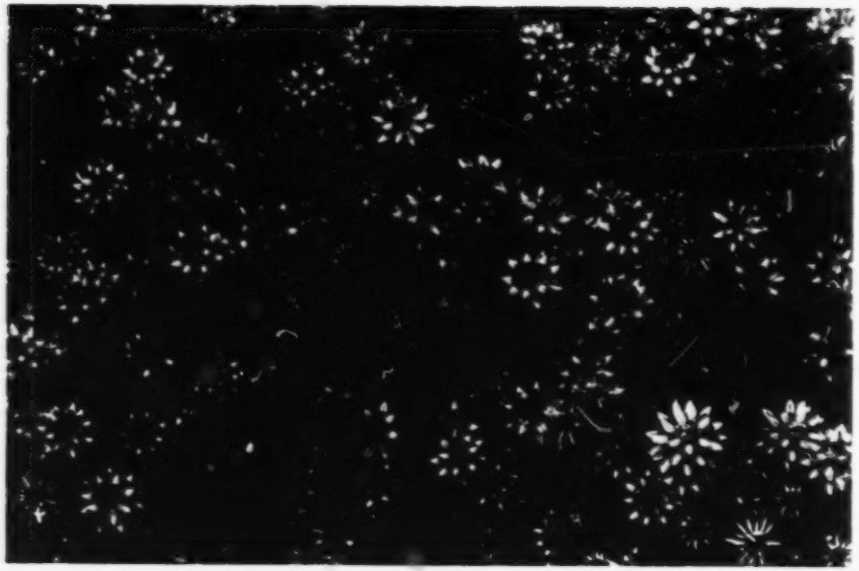
Land disturbed by earthmoving is highly erodible because cover vegetation and topsoil have been removed and generally much of the subsoil has been reworked. Plants used to stabilize many of these areas should be drought tolerant and acid tolerant and grow in low-fertility soil.

The plants described in this section have one or more of these characteristics and are particularly suited to use on disturbed areas. However, they can be grown in areas where site conditions are more favorable.

## Crownvetch
**Coronilla varia**

**ZONES:** 4, 5, 6, 7
**USES:** Ground cover for steep roadbanks, surface mine spoil, and industrial sites where low maintenance is important.
**GROWTH RATE:** Slow to start the first year; produces complete cover in 2 to 3 years.
**SITE CONDITIONS:** Grows in shallow, low-fertility, acid, clayey, loamy, and sandy soils; excellent drought tolerance; poor shade tolerance; requires well-drained soil.

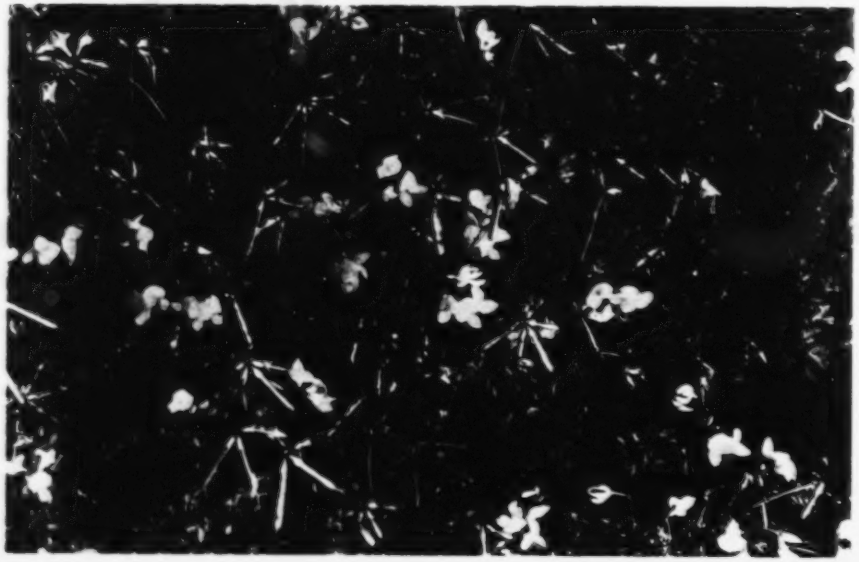
Crownvetch grows to a height of 3 feet. It blooms profusely for about 6 weeks in May and June. Once established, crownvetch grows aggressively and provides excellent cover. Several varieties are available. Establish early in spring or in fall by seeding or by planting crowns or root divisions 12 to 18 inches apart.



## Birdsfoot trefoil
**Lotus corniculatus**

**ZONES:** 3, 4, 5, 6
**USES:** Erosion control, soil improvement, and forage for livestock and deer.
**GROWTH RATE:** Produces complete cover in 2 years.
**SITE CONDITIONS:** Grows in medium-fertility, slightly acid, clayey and loamy soils; fair drought tolerance; poor shade tolerance; grows better on poorly drained soil than most legumes but is not as drought- or heat-tolerant as flatpea or crownvetch.

Birdsfoot trefoil is an herbaceous forage legume that grows to a height of 1 to 2 feet. Bright-yellow flowers bloom in May through July. Several varieties of birdsfoot trefoil are available. Establish by seeding in April, early in May, or early in fall.



## Weeping lovegrass
**Eragrostis curvula**

**ZONES:** 6, 7, 8
**USES:** Fast-growing, short-lived, temporary cover for erosion control; may be a permanent cover on southern exposures and deep sandy soils; good nesting cover for ground nesting birds.
**GROWTH RATE:** Germinates and grows rapidly; produces complete cover in 4 to 5 months.
**SITE CONDITIONS:** Grows in low-fertility, acid, loamy and sandy soils; excellent drought tolerance; poor shade tolerance; requires well-drained soil.

Weeping lovegrass is a fast-growing, warm-season bunch grass. It has long, very fine leaves that droop. Seedheads can grow to a height of 40 inches. Establish by seeding after severe winter frosts have ended, through July.

## 'Tioga' deertongue
**Panicum clandestinum**

**ZONES:** 3, 4, 5, 6, 7, 8
**USES:** Excellent for revegetating acid mine spoil; ground cover for erodible sandy areas, such as roadbanks, ditchbanks, and gravel pits; seeds eaten by many species of birds.
**GROWTH RATE:** Produces complete cover in 2 years.
**SITE CONDITIONS:** Grows in low-fertility, very acid, loamy and sandy soils; excellent drought tolerance; poor shade tolerance; tolerates moderately well drained soil.

'Tioga' deertongue is a native warm-season bunch grass that grows to a height of 1½ to 3 feet. It has broad, short leaves and a strong, fibrous root system. Establish by seeding early in spring.

## 'Lathco' flatpea
**Lathyrus sylvestris**

**ZONES:** 3, 4, 5, 6, 7, 8
**USES:** Erosion control on roadbanks, logging roads, dams, gravel pits, surface mine spoil, and industrial waste areas; cover for small mammals.
**GROWTH RATE:** Slow to germinate and grow the first year; produces complete cover in 2 to 3 years.
**SITE CONDITIONS:** Grows in shallow, low-fertility, very acid, clayey, loamy, and sandy soils; excellent drought tolerance; good shade tolerance; requires well-drained soil; tolerates more acid and droughty sites than most legumes.

'Lathco' flatpea is a deep-rooted, long-lived viny legume that grows to a height of 30 inches. It has long, narrow leaflets and pink flowers and produces seed in August. Flatpea seeds can be drilled or broadcast. They are slow to germinate and should be planted with tall fescue or other fast-growing grasses. Plant in spring, late in summer, or early in fall.

## Sericea lespedeza
**Lespedeza cuneata**

**ZONES:** 6, 7, 8
**USES:** Erosion control; food and cover for quail, rabbits, and other small animals.
**GROWTH RATE:** Slow to start; grows mainly in summer; produces complete cover in 2 years.
**SITE CONDITIONS:** Grows in low-fertility, very acid, loamy and sandy soils; excellent drought tolerance; poor shade tolerance; requires well-drained soil.

Sericea lespedeza has stems that grow to a height of 2 to 4 feet. A semiprostrate variety, 'Interstate', branches more profusely and grows 6 to 12 inches shorter than common sericea. All varieties have widely branched roots that penetrate the soil as deep as 3 feet. Unless mowed, dead stems remain upright in winter. Seed sericea lespedeza in mid- or late spring.

## Tall fescue
**Festuca arundinacea**

**ZONES:** 4, 5, 6, 7, 8
**USES:** Stabilizing grassed waterways, slopes, and roadbanks; lawns for recreation areas; food for geese, deer, and cottontail; cover for birds; forage for winter grazing; the most versatile and widely used grass for conservation in the Northeast.
**GROWTH RATE:** Produces effective ground cover the first year.
**SITE CONDITIONS:** Grows in low-fertility, acid, clayey, loamy, and sandy soils; good drought tolerance; fair shade tolerance; tolerates somewhat poorly drained soil.

Tall fescue is a deep-rooted bunch grass that has stems 3 to 4 feet high. Leaves are broad, coarse, and flat. The variety 'Ky-31' is most widely used in the Northeast. Establish by drilling or broadcasting seed in spring or early in fall.

## Red fescue
**Festuca rubra**

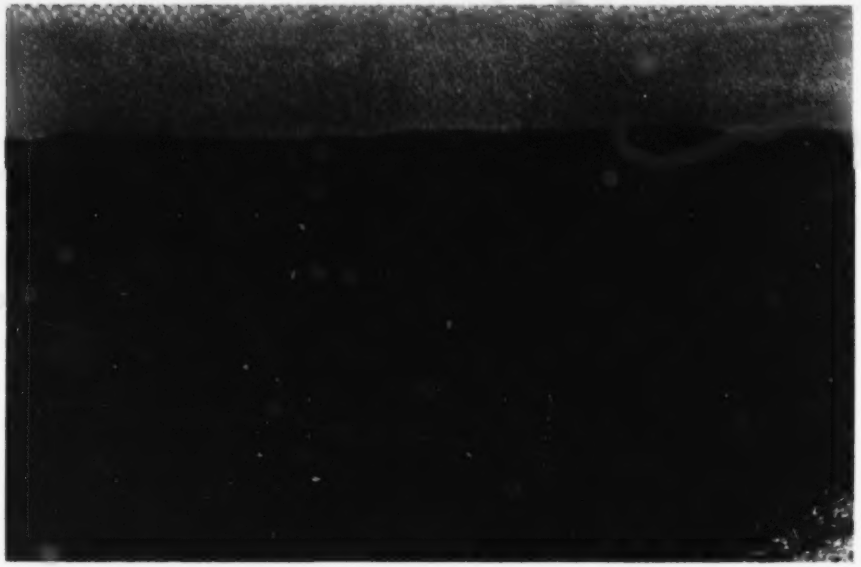
**ZONES:** 3, 4, 5, 6; cool, shady areas in 7 and 8
**USES:** Fine-textured lawn mixtures; dense sod for stabilizing roadbanks and north-facing slopes.
**GROWTH RATE:** Produces complete cover of attractive, uniform sod in 1 year.
**SITE CONDITIONS:** Grows in medium-fertility, slightly acid, clayey and loamy soils; fair drought tolerance; good shade tolerance; requires well-drained soil.

Red fescue has narrow, bright-green leaves. It spreads by short underground stems to produce a tight sod. Aboveground stems have a reddish tint and grow to a height of 18 inches. Red fescue may turn brown in hot, dry summer weather but recovers in fall. Many varieties are available. Establish by seeding on a firm seedbed in spring or early in fall.

## Perennial ryegrass
**Lolium perenne**

**ZONES:** Warm parts of 5; all of 6, 7, 8
**USES:** Fast-growing, short-term stabilizing cover; soil improvement; lawns and pasture (several varieties have been developed for lawns).
**GROWTH RATE:** Produces complete cover in a few months.
**SITE CONDITIONS:** Grows in medium-fertility, slightly acid, clayey and loamy soils; fair drought tolerance; poor shade tolerance; tolerates somewhat poorly drained soil.

Rapid growth rate is the primary conservation value of perennial ryegrass. It grows to a height of 1 to 2 feet. Many long, narrow leaves extend from the base of the plant. Establish by drilling seed or by broadcasting seed with mulch early in spring or fall.



## Bermudagrass
**Cynodon dactylon**

**ZONES:** 6, 7, 8
**USES:** Turf on playfields; stabilizing disturbed areas that are to be mowed or maintained by applying fertilizer.
**GROWTH RATE:** Can produce complete cover in one growing season if planted and managed with that objective.
**SITE CONDITIONS:** Grows in low-fertility, acid, clayey, loamy, and sandy soils; excellent drought tolerance; poor shade tolerance; tolerates moderately well drained soil.

Bermudagrass is a fast-spreading, sod-forming grass that produces more wear-resistant turf than any other grass. It grows only in the warm part of the year and turns brown in fall after the first frost. Bermudagrass grows better on poor sites than most other turf grasses. 'Tufcote' is the most winter-hardy variety for use in the Northeast. Establish by planting sod or small pieces of grass on 12- to 18-inch centers in spring.

## Redtop
**Agrostis alba**

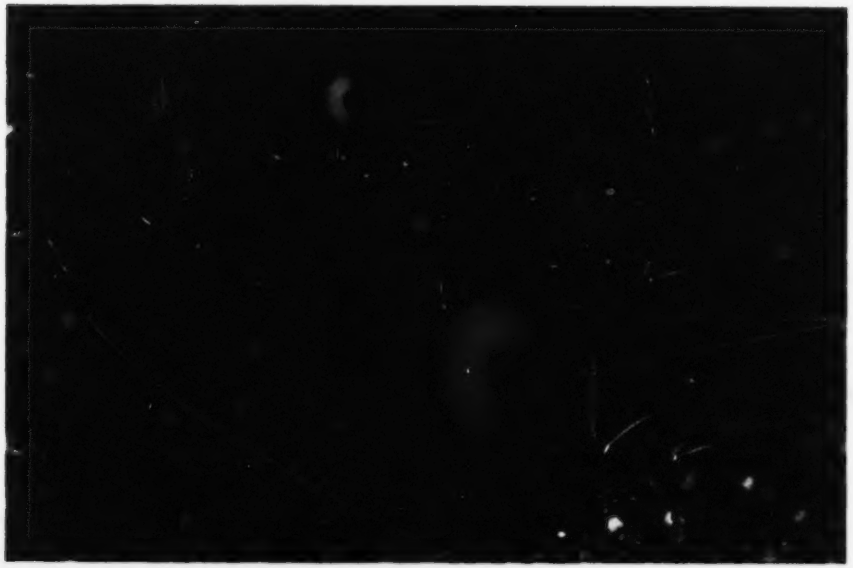
**ZONES:** 3, 4, 5, 6, 7, 8
**USES:** Quick cover for grassed waterways, diversions, and roadbanks.
**GROWTH RATE:** Produces effective ground cover the first year.
**SITE CONDITIONS:** Grows in low-fertility, very acid, clayey, loamy, and sandy soils; fair drought tolerance; poor shade tolerance; tolerates poorly drained soil.

Redtop is a fast-starting, sod-forming grass that is about 18 inches tall at maturity. The leaves are narrow and the stems fine. Because it is fast starting and tolerates cold temperatures and poorly drained soils, redtop is widely used as a component in mixtures planted on disturbed sites in the Northeast. Establish by seeding in spring or early in fall.

## 'Arnot' bristly locust
**Robinia fertilis**

**ZONES:** 4, 5, 6, 7, 8
**USES:** Revegetating coal mine spoil, gravel pits, and roadbanks; best available shrub for steep, sandy or gravelly areas.
**GROWTH RATE:** Matures in 3 to 5 years.
**SITE CONDITIONS:** Grows in low-fertility, very acid, loamy and sandy soils; excellent drought tolerance; poor shade tolerance; requires well-drained soil.

'Arnot' bristly locust grows to a height of 6 feet. It forms a thicket by root suckers and has attractive rose-colored flowers and bristled seedpods. Roots fix nitrogen, which helps it grow well on low-fertility soils. Establish by planting nursery-grown seedlings 1 year old. Follow standard tree-planting procedure.



## Sweetfern
**Comptonia peregrina**

**ZONES:** 3, 4, 5, 6, 7
**USES:** Excellent low-maintenance cover for stabilizing extremely droughty sandy roadbanks.
**GROWTH RATE:** Plants 3 feet apart produce complete cover in 3 to 6 years.
**SITE CONDITIONS:** Grows in low-fertility, acid, loamy and sandy soils; excellent drought tolerance; poor shade tolerance; requires well-drained soil.

Sweetfern is a pleasantly scented woody shrub that grows to a height of 2 to 4 feet. It has underground stems that bind the soil and can fix nitrogen. Establish by planting nursery-grown plants 1 year old. On roadbanks, plant 3 to 6 feet apart and mulch the entire area with 2 to 3 inches of wood chips. Maintain the mulch cover until the plants mature.

## Staghorn sumac/Smooth sumac
**Rhus typhina/Rhus glabra**

**ZONES:** 4, 5, 6, 7, 8
**USES:** Revegetating and landscaping disturbed urban areas, roadbanks, gravel pits, and acid mine spoil; fruit eaten by gamebirds and songbirds.
**GROWTH RATE:** Mature in 4 to 6 years.
**SITE CONDITIONS:** Grow in medium-fertility, slightly acid, loamy soil; good drought tolerance; poor shade tolerance; tolerate moderately well drained soil.

Sumacs are large shrubs that grow to a height of 10 feet or more. They have palmlike leaves composed of 9 to 21 leaflets. Beautiful orange and red fall color increases their landscaping value. Greenish flower spikes produce clusters of red fruit. Establish by planting nursery-grown seedlings 1 year old.

## European black alder
**Alnus glutinosa**

**ZONES:** Warm parts of 4; all of 5, 6, 7, 8
**USES:** Revegetating infertile mine spoil and similar sites.
**GROWTH RATE:** Seedlings planted 6 feet apart grow together in 4 to 6 years.
**SITE CONDITIONS:** Grows in low-fertility, acid, loamy and sandy soils; good drought tolerance; poor shade tolerance; tolerates moderately well drained soil.

European black alder can grow to a height of 50 feet but does not grow that high when planted on mine spoil. Roots fix nitrogen, which makes it grow well on infertile soils. Dark-green leaves turn brown in fall. For maximum cover, plant 1-year-old nursery-grown seedlings 6 feet apart early in spring.

## 'Streamco' purpleosier willow

**Salix purpurea**

**ZONES:** 3, 4, 5, 6, 7, 8
**USES:** Erosion control along streambanks; twigs and buds eaten by grouse, rabbits, beaver, and muskrat.
**GROWTH RATE:** Provides effective erosion control in 2 to 4 years.
**SITE CONDITIONS:** Grows in medium-fertility, slightly acid, clayey, loamy, and sandy soils; poor drought tolerance; good shade tolerance; tolerates poorly drained soil.

'Streamco' purpleosier willow can grow to a height of 10 to 18 feet but does not grow that high on streambanks. It is a thicket-forming shrub with many smooth, thin, tough branches. Establish by planting rooted or unrooted cuttings. Unrooted cuttings should be at least ¼-inch in diameter and 12 to 18 inches long. At least two-thirds of the cutting should be in the ground when planted. Planted areas should be inspected annually for damage, repaired as required, and protected from livestock.

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# Ornamental ground covers

Spreading shrubs and vines provide attractive ground cover that can control erosion on roadbanks, around homes and commercial buildings, and in many other areas. Many are so dense they can replace grass for lawns in nontraffic areas. Generally vines spread by aboveground runners called stolons that form roots or by underground stems called rhizomes.

Combined with other plants, the ground cover plants decribed in this section provide attractive contrasts for landscaping.

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## Bugleweed
**Ajuga reptans**

**ZONES:** 4, 5, 6, 7, 8
**USES:** Dense ground cover.
**GROWTH RATE:** Plants 1 foot apart provide complete cover in 1 year if well managed.
**SITE CONDITIONS:** Grows in high-fertility, slightly acid, loamy soil; poor drought tolerance; excellent shade tolerance; does not grow well in full sun; tolerates moderately well drained soil.

Bugleweed is evergreen in mild climates and protected areas. It has long leaves that grow flat on the ground to form a dense mass of foliage. Blue, white, or red flowers appear on upright stalks from mid-April to mid-June. Some varieties have reddish-bronze leaves. Establish by planting nursery-grown stock. Some weed control is usually required.

## Periwinkle
**Vinca minor**

**ZONES:** 4, 5, 6, 7, 8
**USES:** Lawn substitute and ground cover for large and small areas; not as weed-resistant as Japanese spurge.
**GROWTH RATE:** Plants 1 foot apart produce complete cover in 1 to 2 years.
**SITE CONDITIONS:** Grows in low-fertility, acid, clayey, loamy, and sandy soils; fair drought tolerance; excellent shade tolerance; grows well in full sun; tolerates moderately well drained soil.

Periwinkle is a nonaggressive evergreen that grows to a height of 6 inches. It spreads by stolons that root at the nodes. Purple flowers bloom in spring. Establish by planting stem cuttings or divisions.

## Japanese spurge
**Pachysandra terminalis**

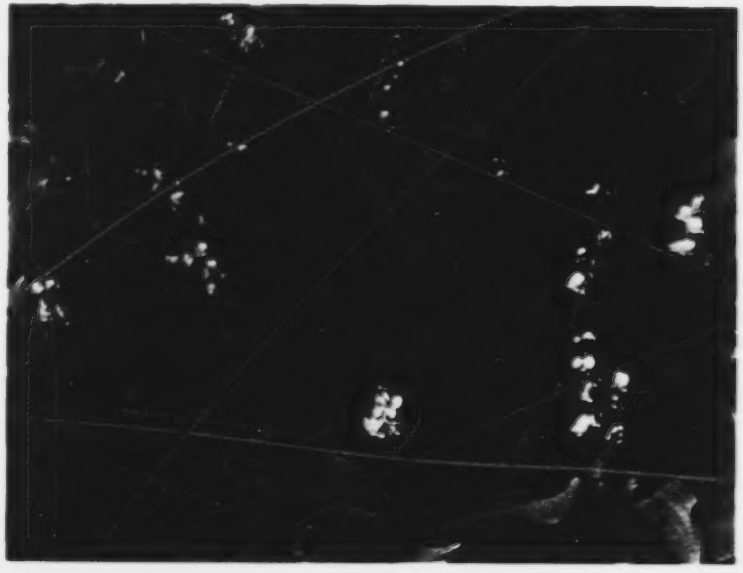
**ZONES:** 4, 5, 6, 7, 8
**USES:** In borders, under trees and shrubs, and as a lawn substitute in nontraffic areas.
**GROWTH RATE:** Plants 1 foot apart provide dense, weed-resistant ground cover in 1 to 2 years.
**SITE CONDITIONS:** Grows in medium-fertility, slightly acid, clayey, loamy, and sandy soils; poor drought tolerance; excellent shade tolerance; does not grow well in full sun; tolerates moderately well drained soil.

Japanese spurge is one of the most attractive evergreen ground covers available. It has alternating leaves 4 inches long. Flowers and fruit are inconspicuous. Plant rooted cuttings 1 foot apart for rapid growth of dense cover. Clipping early in spring stimulates new growth. Fertilize occasionally.

## Lily-of-the-valley
**Convallaria majalis**

**ZONES:** 3, 4, 5, 6, 7, 8
**USES:** Low-maintenance ground cover in partial or full shade.
**GROWTH RATE:** Plants 1 foot apart produce complete cover in 2 to 3 years.
**SITE CONDITIONS:** Grows in low-fertility, acid, clayey, loamy, and sandy soils; good drought tolerance; excellent shade tolerance; does not grow well in full sun; tolerates somewhat poorly drained soil.

Lily-of-the-valley grows to a height of 8 inches. It has attractive, fragrant, bell-shaped flowers and produces orange berries in fall. Establish by planting root divisions in spring and summer.



## St. Johnswort (Aaronsbeard)
**Hypericum calycinum**

**ZONES:** 5, 6, 7, 8
**USES:** Ground cover on sandy soil.
**GROWTH RATE:** Plants 1 foot apart provide complete cover in 1 to 2 years.
**SITE CONDITIONS:** Grows in medium-fertility, slightly acid, loamy and sandy soils; good drought tolerance; good shade tolerance; tolerates moderately well drained soil.

St. Johnswort (Aaronsbeard) is an evergreen that grows to a height of 1 foot. Bright-yellow flowers bloom from June to August. Establish by planting divisions or nursery-grown plants.

## English ivy
**Hedera helix**

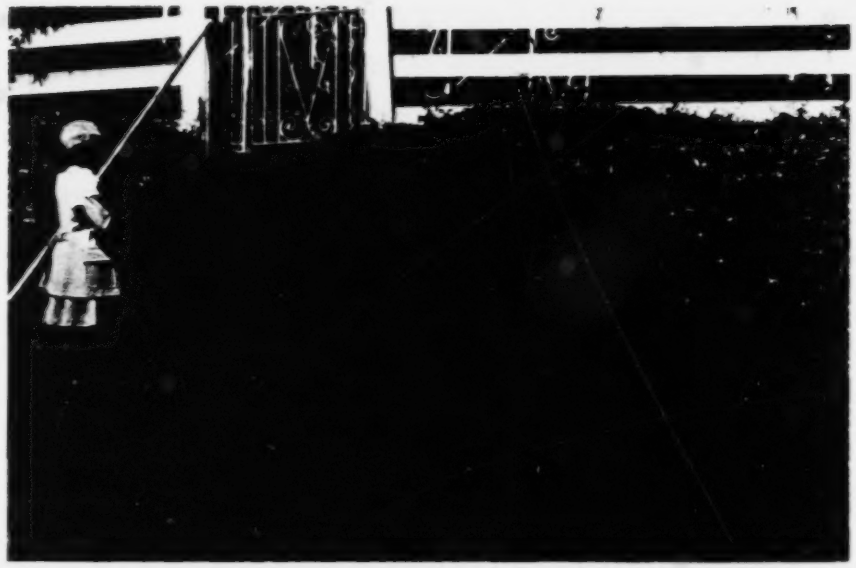
**ZONES:** 4, 5, 6, 7, 8
**USES:** Low-maintenance cover for large areas.
**GROWTH RATE:** Plants 1 foot apart produce complete cover in 2 years.
**SITE CONDITIONS:** Grows in medium-fertility, slightly acid, clayey, loamy, and sandy soils; good drought tolerance; good shade tolerance; tolerates moderately well drained soil.

English ivy is an evergreen vine that has broad, flat leaves and can be grown in full sun or full shade. It trails and climbs, attaching to buildings and trees by small holdfasts projected along its stems. Establish by planting nursery-grown rooted cuttings. New spring growth will quickly camouflage discoloration caused by continuous exposure to sun in winter.

## Halls Japanese honeysuckle
**Lonicera japonica halliana**

**ZONES:** 5, 6, 7, 8
**USES:** Cover for large areas, such as roadbanks; fruit eaten by bobwhite quail, wild turkey, and many species of songbirds.
**GROWTH RATE:** Plants 18 inches apart produce complete cover in 2 years.
**SITE CONDITIONS:** Grows in low-fertility, acid, clayey, loamy, and sandy soils; good drought tolerance; good shade tolerance; tolerates somewhat poorly drained soil.

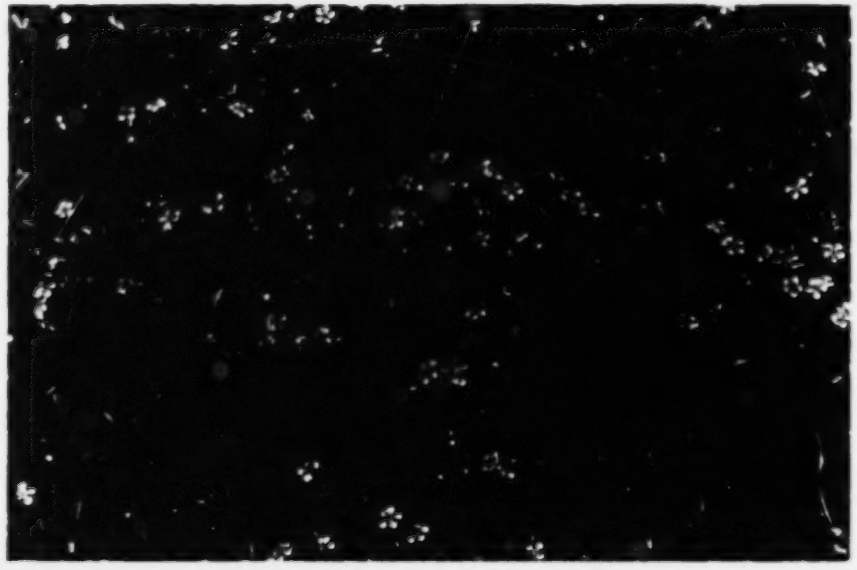
Halls Japanese honeysuckle is an exotic, aggressive, semievergreen vine. Stems root when in contact with soil, and aggressive growth must be restricted to prevent spread into areas where unwanted. Small yellow and white flowers bloom in June. In fall, black berries appear and the leaves turn brown. Establish by planting nursery-grown plants or plants dug in the wild.



## Small-leaved cotoneaster (rockspray cotoneaster)
**Cotoneaster microphylla**

**ZONES:** 5, 6, 7, 8
**USES:** Attractive, informal ground cover for large areas around commercial and industrial sites.
**GROWTH RATE:** Plants 2 feet apart provide complete cover in 2 years.
**SITE CONDITIONS:** Grows in medium-fertility, slightly acid, clayey and loamy soils; fair drought tolerance; fair shade tolerance; tolerates moderately well drained soil.

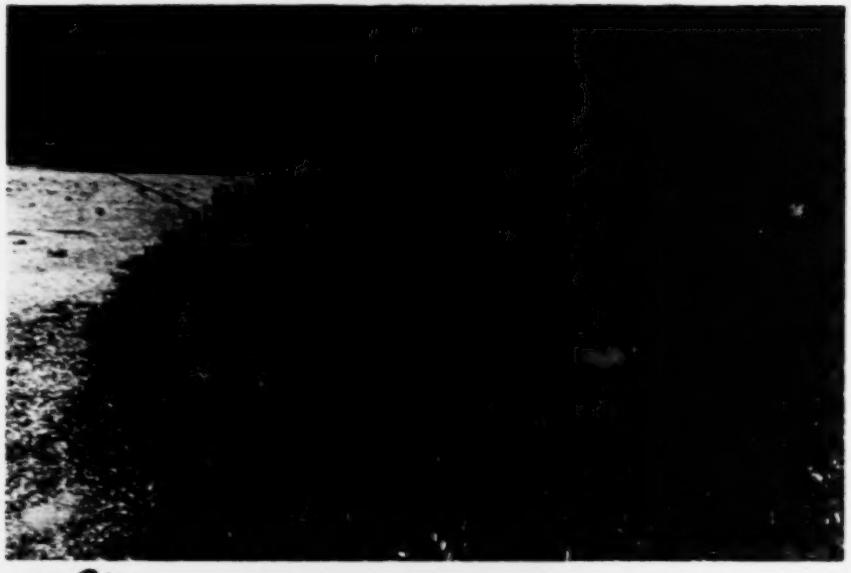
Small-leaved cotoneaster is a semievergreen shrub that grows to a height of 1 to 2 feet. The long branches lie on the ground and occasionally form roots. White flowers appear in May and red berries in fall. Establish by planting container-grown plants 1 to 2 years old 2 feet apart.



## Lily-turf
**Liriope spicata**

**ZONES:** 5, 6, 7, 8
**USES:** Evergreen borders along walks and around trees; ground cover; tolerates droughty, low-fertility soils better than most ornamental ground covers; requires little maintenance once established.
**GROWTH RATE:** Spreads slowly by rhizomes the first year; produces complete cover in 2 years.
**SITE CONDITIONS:** Grows in low-fertility, acid, clayey, loamy, and sandy soils; good drought tolerance; good shade tolerance; tolerates somewhat poorly drained soil.

Lily-turf is a coarse, grasslike evergreen that grows to a height of 6 to 12 inches. Several varieties are available. To establish, divide clumps and plant divisions 6 to 12 inches apart.



## Bearberry
**Arctostaphylos uva-ursi**

**ZONES:** 3, 4, 5, 6, 7, 8
**USES:** Cover for low-fertility, sandy soils inland and for coastal sand dunes; food for grouse.
**GROWTH RATE:** Plants 18 inches apart provide complete cover in 2 to 4 years.
**SITE CONDITIONS:** Grows in low-fertility, acid, loamy and sandy soils; excellent drought tolerance; good shade tolerance; requires well-drained soil.

Bearberry is an evergreen trailing shrub. Red berries appear from late in summer to early in winter. Leaves turn reddish brown in fall. Establish by planting container-grown plants. Bearberry can be propagated by seed or cuttings but is not easily transplanted from the wild.

## Ground juniper

**Juniperus spp.**

**ZONES:** 4, 5, 6, 7, 8
**USES:** Dense, attractive, low-maintenance ground cover for large and small areas.
**GROWTH RATE:** Plants 2 to 3 feet apart provide complete cover in 2 to 3 years.
**SITE CONDITIONS:** Grows in medium-fertility, slightly acid, clayey, loamy, and sandy soils; good drought tolerance; poor shade tolerance; requires well-drained soil.

Ground junipers are evergreen, have spinelike leaves, and grow to a height of 8 to 24 inches. Several species and varieties are suitable for ground cover. Establish by planting container-grown plants 1 year old.

# Plants for coastal dunes and sandy inland areas

Dunes protect shore property from damage caused by coastal storms. This section describes plants that can be used to stabilize or build dunes. All have high tolerance to salt spray and strong winds. They can be used to landscape shore property and are also suited to low-fertility sandy areas inland.

## American beachgrass
**Ammophila breviligulata**

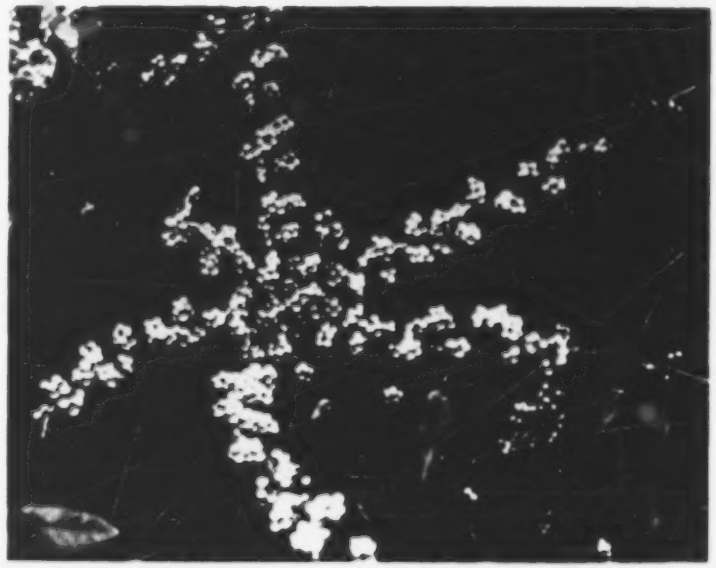
**ZONES:** 3, 4, 5, 6, 7, 8
**USES:** Stabilizing and building frontal sand dunes; stabilizing droughty sandy areas inland.
**GROWTH RATE:** Plants 18 inches apart provide effective cover in 1 year.
**SITE CONDITIONS:** Grows in low-fertility, slightly acid, loamy and sandy soil; excellent drought tolerance; poor shade tolerance; requires well-drained soil.

American beachgrass grows to a height of 3 to 4 feet. It spreads rapidly by underground stems to form erosion-resistant cover but requires fertilizer for dense, enduring growth. It traps windblown sand to build dunes. Two varieties, 'Cape' and 'Hatteras', are commercially available. Establish by planting nursery-grown culms or stems 12 to 18 inches apart.

## Bayberry
**Myrica pensylvanica**

**ZONES:** 3, 4, 5, 6, 7, 8
**USES:** Versatile shrub for landscaping and revegetating sand dunes and inland areas; berries provide food for birds.
**GROWTH RATE:** Produces fruit in 3 to 4 years; matures in 7 to 8 years.
**SITE CONDITIONS:** Grows in low-fertility, slightly acid, clayey, loamy, and sandy soils; excellent drought tolerance; poor shade tolerance; tolerates moderately well drained soil.

Bayberry is a semievergreen shrub that grows to a height of 6 to 8 feet. It has gray, scented berries that are eaten by birds. Fruit appears only where both male and female shrubs are planted in the same area. Roots fix nitrogen, which helps bayberry grow in low-fertility soil. Establish by planting bare-root or container-grown seedlings 2 years old.



## Virginia creeper

**Parthenocissus quinquefolia**

**ZONES:** 5, 6, 7, 8
**USES:** Combining with other plants to form ground cover on coastal sand dunes; elsewhere, a partial cover and accent plant; fruit eaten by many species of songbirds.
**GROWTH RATE:** Plants 18 inches apart provide cover in 1 to 2 years.
**SITE CONDITIONS:** Grows in low-fertility, slightly acid, loamy and sandy soils; excellent drought tolerance; fair shade tolerance; requires well-drained soil.

Virginia creeper is a deciduous vine that has five palmate leaves. In fall, leaves turn scarlet and dark-purple berries appear. Establish on dunes by planting nursery-grown plants.

## Beach plum

**Prunus maritima**

**ZONES:** 4, 5, 6, 7, 8
**USES:** Revegetating sand dunes; beautification; edible fruit.
**GROWTH RATE:** Produces flowers and fruit in 3 to 4 years; matures in 7 to 8 years.
**SITE CONDITIONS:** Grows in medium-fertility, slightly acid, loamy and sandy soils; excellent drought tolerance; fair shade tolerance; tolerates moderately well drained soil.

Beach plum is a deciduous shrub that grows to a height of about 7 feet. It is native to coastal sand dunes. White flowers appear in May and large edible fruit in August or September. Beach plum can be grown in areas other than coastal dunes. Establish by planting bare-root or container-grown seedlings 1 year old.

## Dusty-miller (beach wormwood)
**Artemisia stelleriana**

**ZONES:** 5, 6, 7, 8
**USES:** Ornamental and stabilizing cover for coastal dunes.
**GROWTH RATE:** Plants 2 feet apart provide complete cover in 2 years.
**SITE CONDITIONS:** Grows in low-fertility, slightly acid, loamy and sandy soils; excellent drought tolerance; poor shade tolerance; requires well-drained soil.

Dusty-miller grows to a height of 1 to 2 feet. It has furry-textured, gravish-white stems and leaves and spreads by rhizomes to form a loose ground cover. Establish by planting divisions of old plants or nursery-grown plants.

## Rugosa rose
**Rosa rugosa**

**ZONES:** 4, 5, 6, 7, 8
**USES:** Shrub for stabilizing sand dunes and forming borders for pathways through dunes; landscaping; provides food and cover for songbirds and rabbits.
**GROWTH RATE:** Produces fruit in 1 to 2 years; matures in 6 to 7 years.
**SITE CONDITIONS:** Grows in medium-fertility, slightly acid, loamy and sandy soils; excellent drought tolerance; fair shade tolerance; tolerates moderately well drained soil.

Rugosa rose is a sprawling shrub that grows to a height of 3 to 5 feet. It spreads by stout underground stems. Surface stems have sharp spines. Dark-green leaves turn bright orange in fall. White, pink, or purple flowers blossom most of the summer, and red fruit appears in fall. Establish by planting seedlings 1 to 2 years old.

## 'Emerald Sea' shore juniper
**Juniperus conferta**

**ZONES:** 6, 7, 8
**USES:** Shrub for landscaping and stabilizing sand dunes, for cover on sandy roadbanks, and for border plantings.
**GROWTH RATE:** Plants 2 feet apart provide complete cover in 2 to 3 years.
**SITE CONDITIONS:** Grows in medium-fertility, slightly acid, loamy and sandy soils; good drought tolerance; fair shade tolerance; requires well-drained soil.

'Emerald Sea' shore juniper is a spreading shrub that grows to a height of 1 foot. It spreads by lateral branching to form a dense ground cover. On dunes foliage is pale green. Establish by planting container-grown rooted cuttings 1 to 2 years old. On dunes, provide protection from wind during the first year.

## Japanese black pine
**Pinus thunbergii**

**ZONES:** 5, 6, 7, 8
**USES:** Ornamental tree for borders, screens, and windbreaks on sandy areas inland and along the coast; the most useful evergreen tree for mid-Atlantic coastal areas.
**GROWTH RATE:** Grows 12 to 18 inches per year.
**SITE CONDITIONS:** Grows in medium-fertility, slightly acid, loamy and sandy soils; excellent drought tolerance; poor shade tolerance; tolerates moderately well drained soil.

Japanese black pine is an evergreen tree that grows to a height of 30 to 50 feet. Its wide-spreading branches have bright-green needles and cones 2 to 3 inches long. Establish by planting bare-root or container-grown plants 2 to 3 years old.



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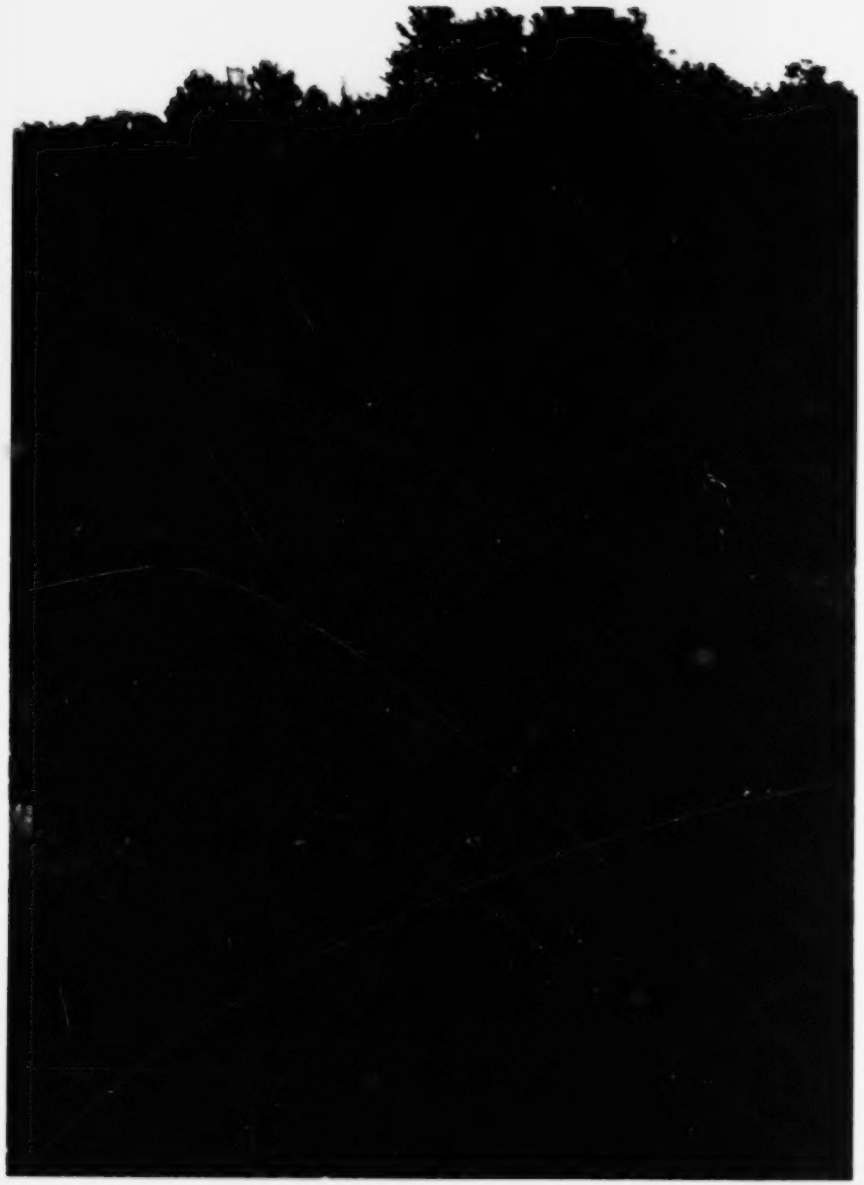


# Wildlife food and cover plants

The plants described in this section provide food and cover for many species of birds and small mammals. Robins, cardinals, goldfinches, cedar waxwings, and other songbirds use many of the fruit-producing shrubs. Rabbits, quail, and pheasants eat the seeds and find cover under other plants. Deer browse on some shrubs, and wild turkey eat the acorns of sawtooth oak.

Because these plants may also be useful for erosion control, screens, hedges, or windbreaks, they are particularly suitable for planting around private homes and for block or hedgerow plantings along big fields.

## 'Blackwell' switchgrass
**Panicum virgatum**

**ZONES:** 4, 5, 6, 7, 8
**USES:** Winter cover and food for dove, quail, and many species of songbirds.
**GROWTH RATE:** Grows slowly the first year; reaches full height at end of second year; requires little maintenance once established.
**SITE CONDITIONS:** Grows in medium-fertility, acid, clayey, loamy, and sandy soils; good drought tolerance; good shade tolerance; tolerates somewhat poorly drained soil; frost heave may make establishment on clayey soils in northern zones difficult.

'Blackwell' switchgrass is a long-lived, deep-rooted grass that grows to a height of 3 to 5 feet. Abundant stems and leaves remain throughout the winter and provide excellent cover. Establish by seeding in spring on a firm seedbed.

## Chokecherry
**Prunus virginiana**

**ZONES:** 3, 4, 5, 6, 7, 8
**USES:** Food for gamebirds, songbirds, rabbits, chipmunks, squirrels, and deer.
**GROWTH RATE:** Produces fruit in 5 to 8 years; matures in 10 to 12 years.
**SITE CONDITIONS:** Grows in medium-fertility, slightly acid, clayey, loamy, and sandy soils; fair drought tolerance; poor shade tolerance; tolerates somewhat poorly drained soil.

Chokecherry is a tree that grows to a height of 30 feet. It has fine-toothed leaves, white flowers in May, and red fruit from July to September. Establish early in spring by planting bare-root seedlings or container-grown plants.

## Flowering dogwood
**Cornus florida**

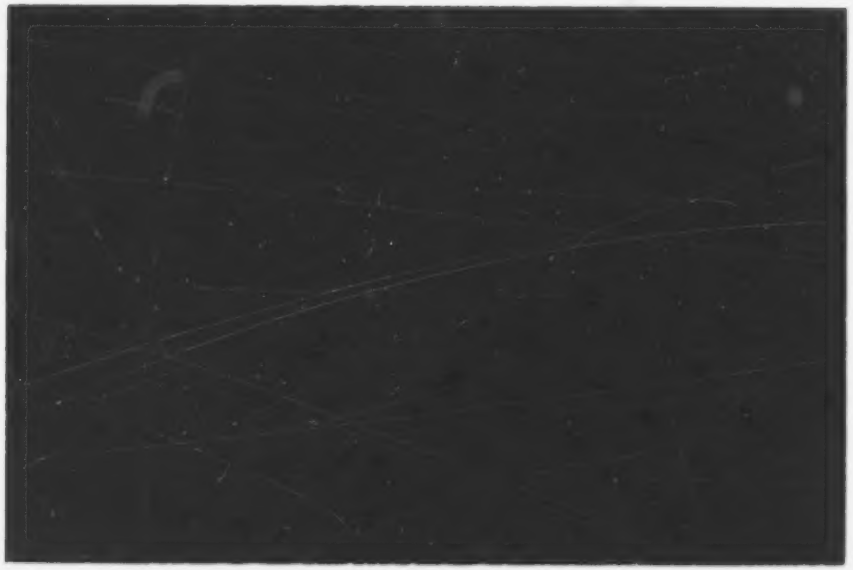
**ZONES:** 5, 6, 7, 8
**USES:** Food for gamebirds and many species of songbirds; ornamental landscaping.
**GROWTH RATE:** Produces fruit in 5 to 6 years; matures in 12 to 14 years.
**SITE CONDITIONS:** Grows in medium-fertility, slightly acid, clayey, loamy, and sandy soils; fair drought tolerance; fair shade tolerance; tolerates moderately well drained soil.

Flowering dogwood is a tree that grows to a height of 15 to 25 feet. It has large white or pink blossoms and produces red fruit in September. Establish in spring by planting container-grown plants.

## Graystem dogwood/Silky dogwood
**Cornus racemosa/Cornus amomum**

**ZONES:** 3, 4, 5, 6, 7, 8
**USES:** Both provide food and cover for gamebirds, songbirds, rabbits, raccoon, and other wildlife; silky dogwood is used for stabilizing lower slopes of streambanks.
**GROWTH RATE:** Both produce fruit in 3 to 5 years; silky dogwood provides effective streambank protection in 3 to 5 years.
**SITE CONDITIONS:** Both grow in medium-fertility, slightly acid, clayey, loamy, and sandy soils; both have fair drought tolerance and fair shade tolerance; graystem requires well-drained soil; silky tolerates poorly drained soil.

Graystem and silky dogwoods are shrubs that grow to a height of 8 to 12 feet. White flowers and blue or white berries remain until late in summer or early in fall. Establish by planting container-grown or bare-root seedlings 1 to 2 years old. On streambanks, plant silky dogwood seedlings or rooted or unrooted cuttings 2 feet apart.



## 'Natob' bicolor lespedeza

**Lespedeza bicolor**

**ZONES:** 6, 7, 8
**USES:** Food for quail, dove, and wild turkey and cover for these and other birds and mammals.
**GROWTH RATE:** Produces seed in 3 to 4 years; matures in 5 to 6 years.
**SITE CONDITIONS:** Grows in low-fertility, slightly acid, clayey, loamy, and sandy soils; good drought tolerance; fair shade tolerance; requires well-drained soil.

'Natob' bicolor lespedeza is an upright shrub that grows to a height of 12 feet. Many purple flowers bloom from July to September. Seeds provide food for quail. Establish by direct seeding or by planting seedlings early in spring. Plant in strips, borders, or compact blocks to provide both food and cover.

## Sawtooth oak

***Quercus acutissima***

**ZONES:** Warm parts of 5; all of 6, 7, 8
**USES:** Food for wild turkey and other gamebirds and songbirds; hedgerows and borders.
**GROWTH RATE:** Produces acorns in 12 to 15 years; matures in 30 to 35 years.
**SITE CONDITIONS:** Grows in medium-fertility, slightly acid, clayey, loamy, and sandy soils; fair drought tolerance; poor shade tolerance; tolerates moderately well-drained soil.

Sawtooth oak is a tree that grows to a height of 50 feet. It has dark-green foliage and produces acorns that provide food for wild turkey and other wildlife. Establish in spring by planting seedlings 1 to 2 years old.

## American holly
**Ilex opaca**

**ZONES:** 5, 6, 7, 8
**USES:** Food and cover for many species of gamebirds and songbirds.
**GROWTH RATE:** Produces fruit in 3 to 4 years; grows about 1 foot per year.
**SITE CONDITIONS:** Grows in medium-fertility, acid, clayey, loamy, and sandy soils; fair drought tolerance; good shade tolerance; tolerates poorly drained soil.

American holly is an evergreen tree that grows to a height of 40 feet. For fruit production, both male and female trees should be planted in the same area. The female tree has red berries that remain into winter. Establish by planting nursery-grown plants 2 to 3 years old early in spring or fall. Protect the plants from strong winds the first year.

## Crabapple
**Malus spp.**

**ZONES:** 3, 4, 5, 6, 7, 8
**USES:** Food for many species of birds; screens, borders, and ornamental plantings.
**GROWTH RATE:** Produces fruit and flowers in 4 to 6 years; matures in 8 to 10 years.
**SITE CONDITIONS:** Grows in medium-fertility, slightly acid, clayey, and loamy soils; good drought tolerance; fair shade tolerance; tolerates somewhat poorly drained soil.

Crabapple is a tree that grows to a height of 15 to 25 feet. Several species and varieties are available. Crabapple produces white and pink blossoms in April and May. Orange or red berries mature in September and remain well into winter. Plant early in spring. Use nursery-grown seedlings 1 to 2 years old for screens or borders. Use container-grown plants for single plantings around the home.

## Elderberry
**Sambucus canadensis**

**ZONES:** 3, 4, 5, 6, 7, 8
**USES:** Food for many species of songbirds, squirrels, and deer.
**GROWTH RATE:** Produces fruit in 4 to 5 years; matures in 7 to 8 years.
**SITE CONDITIONS:** Grows in medium-fertility, slightly acid, clayey, loamy, and sandy soils; fair drought tolerance; fair shade tolerance; tolerates somewhat poorly drained soil.

Elderberry is a spreading shrub that grows to a height of 12 feet. It has bright-green compound leaves, white flowers in June and July, and purple berries from August to October. Establish early in spring by planting bare-root or container-grown seedlings.

## American mountain-ash/European mountain-ash
**Sorbus americana/Sorbus aucuparia**

**ZONES:** 5, 6, 7, 8
**USES:** Food for grouse and many species of songbirds; screens and ornamental plantings.
**GROWTH RATE:** Produces fruit in 5 to 8 years.
**SITE CONDITIONS:** Grows in medium-fertility, slightly acid, clayey, loamy, and sandy soils; fair drought tolerance; poor shade tolerance; tolerates somewhat poorly drained soil.

Mountain-ash is a tree that grows to a height of 35 to 50 feet. It has compound leaves, white flowers in May and June, and large clusters of orange berries in fall and winter. Establish in spring by planting nursery-grown seedlings or container-grown plants.

## Winterberry
**Ilex verticillata**

**ZONES:** 3, 4, 5, 6, 7, 8
**USES:** Food for songbirds; ornamental screens.
**GROWTH RATE:** Produces seed in 3 to 4 years; matures in 6 to 7 years.
**SITE CONDITIONS:** Grows in medium-fertility, acid, clayey, loamy, and sandy soils; fair drought tolerance; fair shade tolerance; tolerates poorly drained soil.

Winterberry is an upright spreading shrub that grows to a height of 10 feet. Red berries provide food for birds throughout the winter. Establish early in spring or late in fall by planting bare-root or container-grown seedlings.

## 'Cardinal' autumn-olive
**Elaeagnus umbellata**

**ZONES:** 4, 5, 6, 7, 8
**USES:** Food for many species of songbirds, quail, and small mammals; vegetating gravel pits, mine spoil, and roadbanks; screens around homes and along highways; one of the most versatile shrubs for conservation use in the Northeast.
**GROWTH RATE:** Produces fruit in 3 to 4 years; matures in 5 to 7 years.
**SITE CONDITIONS:** Grows in low-fertility, acid, loamy, and sandy soils; excellent drought tolerance; poor shade tolerance; tolerates moderately well drained soil.

'Cardinal' autumn-olive is a spreading upright shrub that grows to a height of 12 feet. Roots fix nitrogen, which makes it grow well on infertile soils. It produces small, fragrant flowers and abundant red berries. Establish by planting nursery-grown plants 1 to 2 years old. Follow standard tree-planting techniques.

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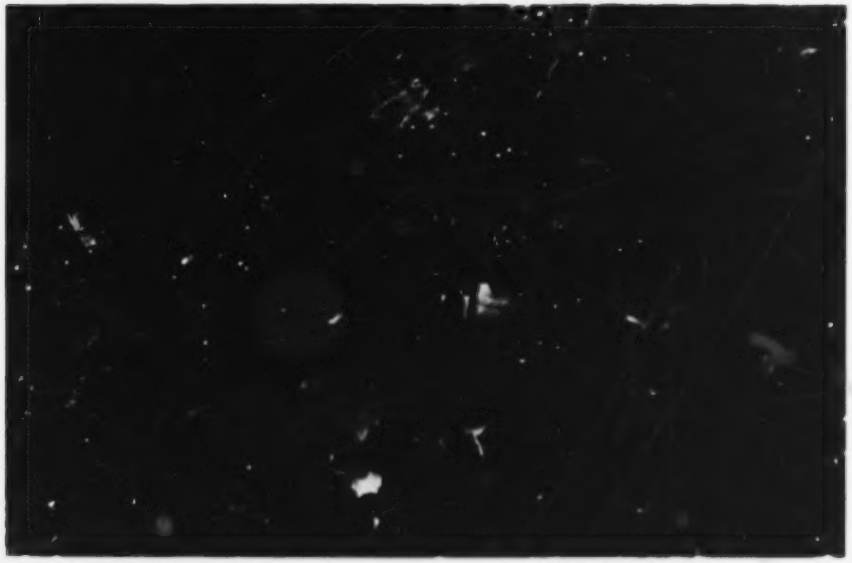
## Firethorn

**Pyracantha coccinea**

**ZONES:** 6, 7, 8
**USES:** Upright varieties are used for barriers, screens, and landscaping; low-growing varieties are used for ground cover; both provide food for catbirds, mockingbirds, and purple finches; attractive flowers and fruit make firethorn an excellent multipurpose plant around homes.
**GROWTH RATE:** Matures in 3 to 4 years; can be shaped by clipping.
**SITE CONDITIONS:** Grows in low-fertility, slightly acid, clayey, loamy, and sandy soils; good drought tolerance; fair shade tolerance; tolerates moderately well drained soil.

Firethorn is a semievergreen shrub that grows to a height of 10 to 15 feet. It has glossy oval leaves, white flowers in May, and orange or red berries from September to March. Low-growing and upright varieties are commercially available. Establish in spring by planting container-grown plants.



## American cranberrybush

**Viburnum trilobum**

**ZONES:** 3, 4, 5, 6, 7, 8
**USES:** Winter food for grouse, songbirds, and squirrels; hedges and borders.
**GROWTH RATE:** Slow the first 2 years; produces fruit in 4 to 5 years; matures in 8 to 10 years.
**SITE CONDITIONS:** Grows in medium-fertility, slightly acid, clayey, loamy, and sandy soils; poor drought tolerance; fair shade tolerance; tolerates poorly drained soil.

American cranberrybush is a deciduous shrub that grows to a height of 6 to 7 feet. Leaves turn reddish brown in fall. Fruit remains late into winter. Establish by planting seedlings 2 years old. Because of slow early growth, care must be taken to be sure the plants are not accidentally destroyed. Plant about 4 feet apart in a row.

# Plants for screens, hedges, and windbreaks

Plants described in this section can be grown for screens, hedges, and windbreaks. Several also provide food and cover for wildlife. Because many are large, be sure to consider carefully the size of the area available before planting.

Some plants described in other sections also can be used for hedges and screens. Those suitable for large hedges include 'Cardinal' autumn-olive, firethorn, and Japanese black pine. Those suitable for screens less than 10 feet high include silky dogwood and winterberry. Plants that grow upright to a height of more than 10 feet are best suited to windbreaks.

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## Amur privet
**Ligustrum amurense**

**ZONES:** 4, 5, 6, 7, 8
**USES:** Trimmed hedges and field windbreaks; has numerous fine twigs and can be trimmed to desired width or height.
**GROWTH RATE:** Grows 18 to 24 inches per year.
**SITE CONDITIONS:** Grows in medium-fertility, slightly acid, clayey, loamy, and sandy soils; fair drought tolerance; poor shade tolerance; tolerates moderately well drained soil.

Amur privet is a deciduous, upright plant that grows to a height of 15 feet. Establish by planting 1-year-old bare-root plants or rooted cuttings 2 feet apart in a row.

## California privet
**Ligustrum ovalifolium**

**ZONES:** 7, 8
**USES:** Informal hedges and windbreaks.
**GROWTH RATE:** Grows about 2 to 3 feet per year.
**SITE CONDITIONS:** Grows in medium-fertility, slightly acid, loamy, and sandy soils; fair drought tolerance; fair shade tolerance; tolerates moderately well drained soil.

California privet is semievergreen and grows to a height of 12 to 18 feet. It can be sheared to control height and produce fine branching. Varieties that have variegated leaves are available. Establish by planting rooted cuttings 3 feet apart in a row.

## Tall hedge
**Rhamnus frangula**

**ZONES:** 3, 4, 5, 6, 7, 8
**USES:** Deciduous shrub for hedges and screens.
**GROWTH RATE:** Grows 18 to 24 inches per year.
**SITE CONDITIONS:** Grows in medium-fertility, slightly acid, clayey, loamy, and sandy soils; fair drought tolerance; poor shade tolerance; tolerates moderately well drained soil.

Tall hedge is a deciduous shrub that grows to a height of 10 to 12 feet. It has dark-green, lustrous, very dense foliage and can be pruned to desired height. Foliage stays on the plant until late in fall. Establish by planting container-grown or bare-root plants about 4 feet apart in a row.

## Eastern redcedar
**Juniperus virginiana**

**ZONES:** 3, 4, 5, 6, 7, 8
**USES:** Dense screen or hedge; food for songbirds; nesting sites for robins and mockingbirds; roosting cover for juncos and other birds.
**GROWTH RATE:** Grows 8 to 12 inches per year.
**SITE CONDITIONS:** Grows in low-fertility, acid, clayey, loamy, and sandy soils; good drought tolerance; good shade tolerance; tolerates moderately well drained soil.

Eastern redcedar is a native evergreen tree that grows to a height of 25 to 30 feet. It is naturally upright and requires very little trimming. Container-grown plants or plants dug from native stands can be used. Plant about 4 feet apart in a row.

## 'Rem Red' amur honeysuckle

**Lonicera maackii**

**ZONES:** 4, 5, 6, 7, 8
**USES:** Borders, hedges, and screens; provides food for many species of birds late in fall and through winter.
**GROWTH RATE:** Produces fruit in 3 to 5 years; matures in 6 to 7 years.
**SITE CONDITIONS:** Grows in medium-fertility, slightly acid, clayey, loamy, and sandy soils; fair drought tolerance; good shade tolerance; tolerates somewhat poorly drained soil.

'Rem Red' amur honeysuckle is a large shrub that grows to a height of 8 to 12 feet. It has dense foliage, extensive branching, oval leaves, and white flowers. Red berries mature late in fall and provide food for birds in winter. Establish by planting seedlings 1 to 2 years old about 6 feet apart in a row.

## Japanese yew

**Taxus cuspidata**

**ZONES:** 3, 4, 5, 6, 7, 8
**USES:** Versatile shrub for high-quality hedges and screens; tolerates trimming and shearing.
**GROWTH RATE:** Grows 6 to 10 inches per year; matures in 10 to 12 years.
**SITE CONDITIONS:** Grows in medium-fertility, slightly acid, loamy, and sandy soils; poor drought tolerance; good shade tolerance; tolerates moderately well drained soil.

Japanese yew is an evergreen shrub that grows to a height of 12 to 16 feet. It has dense, dark-green foliage. It can be sheared, which makes it one of the most attractive hedge plants. Establish by planting container-grown or bare-root seedlings about 3 feet apart in a row.

## Eastern arborvitae
**Thuja occidentalis**

**ZONES:** 3, 4, 5, 6, 7, 8
**USES:** Dense, attractive hedges.
**GROWTH RATE:** Grows 12 to 18 inches per year.
**SITE CONDITIONS:** Grows in medium-fertility, slightly acid, clayey, loamy, and sandy soils; fair drought tolerance; fair shade tolerance; tolerates somewhat poorly drained soil.

Eastern arborvitae is a native evergreen tree that grows 25 feet high and 5 feet wide. Although the tree can be sheared, its natural form is ideal for screens. The most widely used varieties commercially available are 'Douglas Pyramidal' and 'Fastigiata'. Establish by planting 2-year-old seedlings or container-grown plants about 6 feet apart.

## Tatarian honeysuckle
**Lonicera tatarica**

**ZONES:** 3, 4, 5, 6, 7, 8
**USES:** Hedges, borders, or clump plantings; summer food for birds and year-round cover for birds and small mammals.
**GROWTH RATE:** Produces fruit in 3 to 4 years; matures in 7 to 8 years.
**SITE CONDITIONS:** Grows in medium-fertility, slightly acid, clayey, loamy, and sandy soils; fair drought tolerance; fair shade tolerance; tolerates moderately well drained soil.

Tatarian honeysuckle is a shrub that grows erect to a height of 6 to 9 feet. It has many stems, dense branches, pink flowers in May and June, and red berries in July. Establish by planting nursery-grown seedlings 1 to 2 years old about 5 feet apart in a row.

# How to establish plants

Proper establishment is essential to effective use of plants for conservation. The following information tells how to establish most of the plants discussed in the previous sections. More guidance on establishing plants is available from your local nursery or Soil Conservation Service office.

**Direct seeding**

Plant early in spring, late in summer, or early in fall.

Prepare a smooth seedbed, free of other vegetation.

Test soil for needed lime and fertilizer. A pH of 6.0 to 6.5 is desirable. In lieu of tests, apply 100 pounds of lime and 15 pounds of 10-10-10 fertilizer per 1,000 square feet.

Apply seed uniformly over the area. This can be done by drilling or broadcasting by machine or by hand.

If the seed is broadcast, it should be covered with ¼- to ½-inch of soil by raking the area or by mulching after seeding. Mulching helps produce a uniform stand. Straw, grass, wood chips, hay, or similar material can be used. Mulching is less essential if the seed is drilled into the soil or covered by raking. However, it will greatly improve the chances of success on all sites.

Mulch should be secured to the ground. On large areas this can be done by spraying asphalt over the mulch or by using wood fiber cellulose which is self-adhering, as mulch. Homeowners can use twine or netting available from local hardware stores or garden centers.

**Ground cover cuttings and divisions**

The area to be planted should be well cultivated and free of weeds. Apply lime to adjust the soil acidity to a pH of 6.0 to 6.5. Apply 10-10-10 fertilizer at a rate of about 15 pounds per 1,000 square feet.

For rapid growth of complete cover plant nonwoody species, such as Japanese spurge or periwinkle, about 1 foot apart. Woody species, such as juniper, can be planted as discussed under planting bare-root woody plants or planting balled and burlapped or container-grown material.

Bedding-type ground covers, such as Japanese spurge or periwinkle, can be purchased in flats or bare-root condition. Either can be transplanted to the prepared seedbed by using a small trowel. Make a hole large enough to accommodate the root or roots plus soil. Backfill and firm the soil around the plant, water immediately, and keep well watered until established.

**Planting bare-root woody plants**

Bare-root plants have no soil around the roots. Great care must be taken to be sure that the roots do not dry during planting. Bare-root plants should be dug and replanted only when they are dormant. There are two methods of planting.

*Slit method*

Remove sod and weeds from a circle 2 feet in diameter. Make a slit in the center. Place the roots in the slit to the same depth as in the nursery.

Firm the soil around the roots by pressing the slit together. Water immediately. Mulch the area 2 feet around the plant with pine needles, grass, woodchips, or similar material.

Several weeks after planting, put a handful of 10-10-10 fertilizer around the plant, at least 1 foot from the base.

*Hole method*

Dig a hole several times larger than is necessary to accommodate the roots. Loosen the soil thoroughly. Add peat moss to the hole and mix it with the soil to improve the chance of survival and rapid growth.

Place the roots in the hole and backfill around them. Mix peat moss with the backfill material. Firm the soil and then

water immediately. Mulch and fertilize as in the slit method.

**Planting balled, burlapped, or container-grown plants**

Balled and burlapped material is nursery stock dug with a ball of soil around its roots that is held in place with a burlap wrapping. Container-grown material is produced in the nursery in a container and sold in that form. Such material can be planted any time that the soil can be dug, but the best time is when the plant is dormant.

Remove sod and weeds from a circle 3 feet in diameter.

Dig a hole twice the size of the container or ball. Mix the soil removed from the hole with an equal amount of peat moss.

Backfill the hole with the mixture until the hole is only slightly larger than the container or ball. Be sure to backfill until the plant ball will sit slightly higher than the surrounding soil when placed inside the hole.

If the plant is in a container, carefully remove it, taking the soil surrounding the roots with it. This may require cutting the container. Shearing or trimming the root mass of some container-grown plants is desirable.

Place the plant in the hole. Backfill the hole, firming the soil as it is put in. Loosen the twine and burlap at the top of the balled and burlapped plant.

Build a basin around the plant and fill it with water. Rewater as necessary to prevent drying of the root zone. Mulch and fertilize.

**Planting vegetation on sand dunes**

Woody plants can be planted on sand dunes by the hole method described under planting bare-root woody plants or the methods described for planting balled and burlapped or container-grown plants.

American beachgrass can be planted by hand or machine any time between October 15 and April 15 when the ground is not frozen. Do not plant in summer. When hand planting, proceed as follows.

Open a slit with a shovel or nursery spade and place three or four stems of beachgrass in the slit to a depth of 6 to 8 inches. Then close the slit with the heel of your foot.

Plant beachgrass 12 to 18 inches apart. Fertilize annually with 10–10–10 fertilizer at 200 to 400 pounds per acre.

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*Cultivar names, such as 'Emerald Sea' shore juniper, are not given here but are given in the text.



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